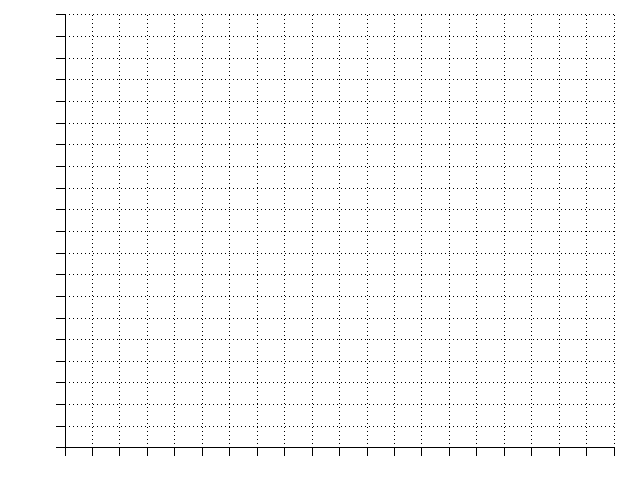
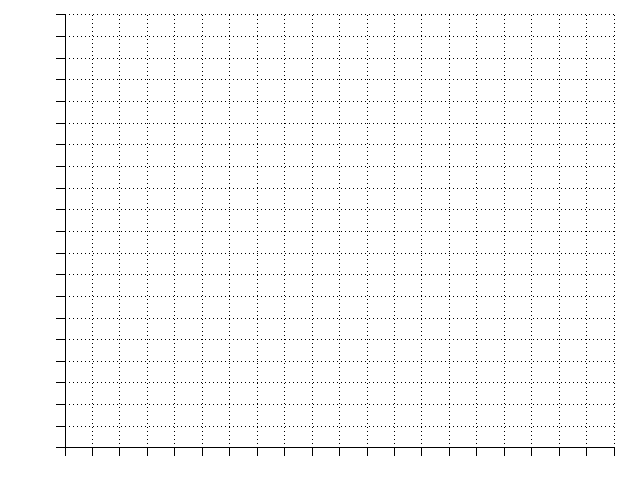
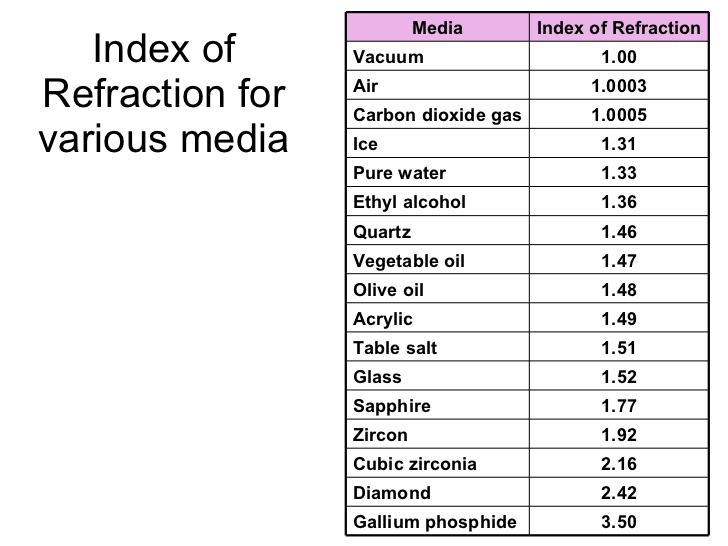
**Refraction Lab /25 APP Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Making Measurements: using the materials provided measure the angle of refraction for the following angles of incidence and complete the table below. [ /5APP]

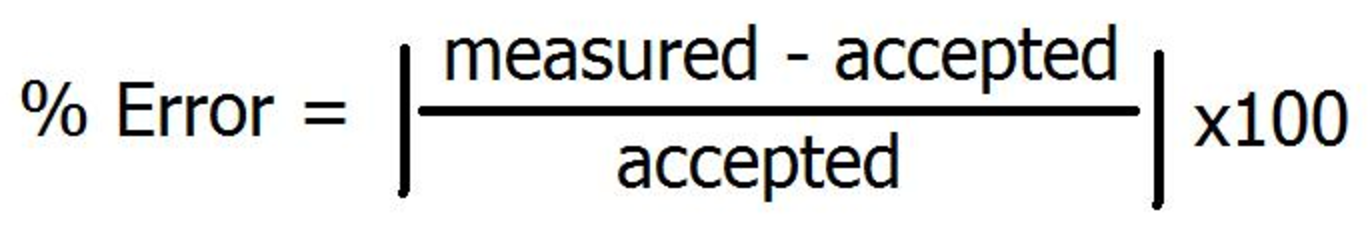
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Angle of Incidence, θi** | **Angle of Refraction, θr** | **\_θi\_**  **θr** | **sin θi** | **sin θr** | **\_\_sin θi\_\_**  **sin θr** |
| **0** |  |  |  |  |  |
| **10** |  |  |  |  |  |
| **20** |  |  |  |  |  |
| **30** |  |  |  |  |  |
| **40** |  |  |  |  |  |
| **50** |  |  |  |  |  |
| **60** |  |  |  |  |  |

1. On the first grid, graph the relationship between the angle of incidence and the angle of refraction. On the second grid, graph the relationship between the sine of the angle of incidence and the sine of the angle of refraction. Follow proper graphing rules. [ /10 APP]
2. Using the graphs above, explain which line of best fit (LOBF) shows the **strongest correlation**? [ /2 A]

4. Using the LOBF of the second graph, determine the angle of incidence if the angle of refraction is 30 ̊. [ /1A]



1. Calculate the slope of the LOBF of the second graph. Show your work clearly. [ /2A]
2. The slope represents the index of refraction of the medium. Compare the known value of n (shown in table) to the slope you determined in the previous question by calculating the percentage error with the following formula. Show your work clearly. [ /2 A]



1. What is the speed of light through the medium? Use GRASP. [ /3A]